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## METHODS FOR MODULATING T CELL RESPONSES BY MANIPULATING A COMMON CYTOKINE RECEPTOR GAMMA CHAIN

### Abstract

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When stimulated through the T cell receptor(TCR)/CD3 complex without requisite costimulation through the CD28/B7 interaction, T cells enter a state of antigen specific unresponsiveness or anergy. This invention is based, at least in part, on the discovery that signaling through a common cytokine receptor  $\gamma$  chain (e.g., interleukin-2 receptor, interleukin-4 receptor, interleukin-7 receptor, interleukin-15 receptor) prevents the induction of T cell anergy. This  $\gamma$  chain has been found to be associated with a JAK3 kinase having a molecular weight of about 116 kD (as determined by sodium dodecyl sulfate polyacrylamide gel electrophoresis) and signaling through the  $\gamma$  chain induces phosphorylation of the JAK3 kinase. Accordingly, methods for stimulating or inhibiting proliferation by a T cell which expresses a cytokine receptor  $\gamma$  chain are disclosed.

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